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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,204	03/24/2006	Thomas Fuchss	27231U	9579

34375 7590 05/04/2007  
NATH & ASSOCIATES PLLC  
112 South West Street  
Alexandria, VA 22314

EXAMINER
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RAHMANI, NILOOFAR

ART UNIT	PAPER NUMBER
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1625

MAIL DATE	DELIVERY MODE
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05/04/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/573,204

Applicant(s)

FUCHSS, THOMAS

Examiner

Niloofar Rahmani

Art Unit

1625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11, 14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9 is/are allowed.
- 6) ☒ Claim(s) 11, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-11, and 14-15 are currently pending in the instant application and claims 12-13 are cancelled.

#### *Priority*

2. This application is filed on 03/24/2006, which is a 371 of PCT/EP04/52373, filed on 09/30/2004, which claims benefit of EUROPEAN PATENT OFFICE (EPO) 03022040.4, filed on 10/01/2003.

3. ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 is rejected because the claims are self-conflicting.

Pharmaceutical composition by definition must be effective yet non-toxic. Claim 11 is pharmaceutical composition without dosage limitation i.e. included both ineffective and toxic amount. It is recommended that "therapeutically effective amount" be incorporated in the claim.

4. ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 14-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue". These factors include 1) the breadth of the claims, 2) the nature of the invention, 3) the state of the prior art, 4) the level of one of ordinary skill, 5) the level of predictability in the art, 6) the amount of direction provided by the inventor, 7) the existence of working examples, and 8) the quantity of experimentation needed to make or use the invention based on the content of the disclosure. In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

- 1) The breadth of the claims.
- 2) The nature of the invention,
- 3) The state of the prior art,
- 4) The level of one of ordinary skill,
- 5) The level of predictability in the art,
- 6) The amount of direction provided by the inventor,
- 7) The existence of working examples,
- 8) The quantity of experimentation needed to make or use the invention based on the content of the disclosure.

**The nature of the invention:** The instant invention is drawn to method for treating an acute inflammatory disease and the central nervous system (CNS) using the compound of formula (I).

**The state of the prior art:** "Astrocytes are important sources of proinflammatory mediators such as iNOS and TNF $\alpha$  in the diseased central nervous system. Treatment with SB203580, a specific inhibitor of p38 mitogen-activated protein kinases (MAPK), potently inhibited IL-1-mediated induction of iNOS and TNF $\alpha$  in cultures of human fetal astrocytes. Our study may have implications for the pathogenesis and therapy for human CNS inflammatory diseases, such as multiple sclerosis and HIV encephalitis, in which proinflammatory cytokines and iNOS are expressed." (Hua et al., Journal of Neuroimmunology, 2002, Vol. 126, pages 180-189).

"Astrocytes are predominant neuroglial cells of the central nervous system and are actively involved in cytokine-mediated events in Alzheimer's disease. To investigate the biological effect of water-soluble chitosan (WSC), we examined cytotoxicity, production of pro-inflammatory cytokines and inducible nitric-oxide synthase (iNOS) on human astrocytoma cell line CCF-STTG1 stimulated with IL-1 $\beta$  and A $\beta$  fragment 25-35. the expression of iNOS was induced by IL-1 $\beta$  and A $\beta$  and was partially inhibited by treatment with WSC. WSC has an ability of regulation in inflammatory response and neurotoxicity in astrocytoma cells". (Kim et al., Neurosciences Letters, 2002, Vol. 321, pages 105-109).

**The predictability in the art:** It is noted that the pharmaceutical art is unpredictable, requiring each embodiment to be individually assessed for physiological activity. *In re Fisher*, 427 F. 2d 833, 166 USPQ 18 (CCPA 1970) indicates that the more unpredictable an area is, the more specific enablement is necessary in order to satisfy the statute. In the instant case, the instantly claimed invention is highly unpredictable since one skilled in the art would recognize that in regards to the therapeutic effects, whether or not the compounds of formula of claim 1 would be useful for treating a pharmacological condition in a subject.

**Amount of guidance/working examples:** On pages 54 of the specification, applicant has examples of test compounds for inhibition of iNOS activity. However, applicant has not guidance or examples for treating inflammatory disease in a patient.

**The breadth of the claims:** The breadth of claims is drawn to method for treating an acute inflammatory disease and the central nervous system (CNS) using the compound of formula (I).

**The quantity of undue experimentation needed:** Since the guidance and teaching provided by the specification is insufficient for treating inflammatory disease, one of ordinary skill in the art, even with high level of skill, is unable to use the instant compounds as claimed without undue experimentation.

**The level of the skill in the art:** The level of skill in the art is high. However, due to the unpredictability in the pharmaceutical art, it is noted that each embodiment of the invention is required to be individually assessed for physiological activity

by in vitro and in vivo screening to determine which compounds exhibit the desired pharmacological activity and which diseases would benefit from this activity.

Taking all of the above into consideration, it is not seen where the instant claims 14-15, for treating inflammatory disease, have been enabled by the instant specification.

**5. Claim Objections**

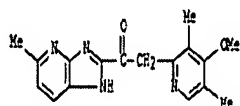
Claim 10 is objected to because of the following informalities: The numbers 1-22 to indicate the compounds. The numbers 1-22 can be changed to a., b., c., d., .....and put "," after each compound. Appropriate correction is required.

**6. Allowable Subject Matter**

Claims 1-9 are patentable over Lundberg et al., WO 9725030. The reference teaches the compound

**RN** 193335-90-9

**CN** Ethanone, 2-(4-methoxy-3,5-dimethyl-2-pyridinyl)-1-(5-methyl-1H-imidazo[4,5-b]pyridin-2-yl)



, which

does not include NH<sub>2</sub> in the pyridine. Therefore, the claims are free of prior art.

**7.** Any inquiry concerning this communication or earlier communications from the examiner should be directed to Niloofar Rahmani whose telephone number is

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571-272-4329. The examiner can normally be reached on Monday through Friday from 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Mckenzie, can be reached on 571-272-0670. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NILOOFAR RAHMANI

04/30/2007

NR



D. MARGARET SEAMAN

PRIMARY EXAMINER

GROUP 1625